

CASE REPORT

Filarial abscess in the submandibular region

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ABSTRACT

Filariasis is a parasitic infectious disease caused by filarial nematode worms. These worms mainly dwell in subcutaneous tissues and lymphatics of the human host, with a predilection for lower limbs, retroperitoneal tissues, spermatic cord, and epididymis. Oral or perioral involvement of the filarial nematode is rare. This case report describes a filarial abscess in the right submandibular region. Fine needle aspiration cytology of the abscess revealed the presence of microfilaria of *Wuchereria bancrofti* species. The parasite was also present in the peripheral blood smear. Filarial infection presenting in this region is unusual and can cause diagnostic dilemma. The clinician can consider filariasis as one of the differential diagnosis while treating those abscesses in the orofacial region that are unresponsive to routine management, especially, patients hailing from endemic areas.

Key words: Filarial abscess, fine needle aspiration cytology, microfilaria, perioral filariasis, *Wuchereria bancrofti*

INTRODUCTION

Filariasis is a major public-health problem in the Asian and African subcontinent. Lymphatic filariasis is caused by the worms *Wuchereria bancrofti*, (*W. bancrofti*) *Brugia malayi* (*B. malayi*), and *Brugia timori* (*B. timori*). Among these *W. bancrofti* is the most prevalent parasite in India with a predilection for lower limbs, spermatic cord, and epididymis.^[1] Breast,^[2] thyroid,^[3] body fluids,^[4,5] and skin^[6] are unusual sites for filariasis. Oral or perioral involvement is rare.^[7] We present a patient with filarial abscess in the submandibular region.

CASE REPORT

A 25-year-old lady presented to dental out-patient services with swelling and pain in the right side of the face. Local examination showed a fluctuant swelling measuring 5 mm × 3 cm over the right side of the angle of mandible [Figure 1]. The swelling was warm and tender on palpation with signs of impending rupture. Clinical examination of the orofacial region did not reveal any odontogenic or non-odontogenic foci of infection. Patient's vitals were in the normal limits. All the hematological parameters were normal except for borderline leukocytosis

and a low hemoglobin level. Incision and drainage (I and D) of the abscess was carried out under local anesthesia. As the patient was in her 12th week of gestation, antibiotics were prescribed in consultation with the gynecologist.

On a follow-up visit after 2 weeks, a painless indurated swelling at the same site was noted [Figure 1, inset]. Pus culture carried out during the incision and drainage had not revealed any bacterial growth. As the condition was not resolving, a fine needle aspiration cytology (FNAC) was advised in consultation with the pathologist, to rule out tubercular infection.

Aspirate from the swelling yielded purulent material. The smears were moderately cellular and showed abundant necrotic debris within which were seen polymorphs and histiocytes. One of the smears revealed the presence of a single microfilaria of *W. bancrofti*, which was rounded anteriorly and tapered posteriorly [Figure 2]. The caudal end of the microfilariae had a clear space free of nuclei. After the aspiration, the patient was admitted and a midnight blood sample was taken. The wet mount preparation showed motile microfilariae, which confirmed the diagnosis of filariasis.

Since, the patient was in the first trimester of pregnancy, decision was taken to start the anti-filarial drugs after delivery.

DISCUSSION

Filariasis is common in tropical and subtropical areas of Africa, Asia, South and Central America. It is endemic in many parts of India. There are nine known filarial nematodes which use man as definitive host. Out of these, three worms

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10.4103/0973-029X.119769



Figure 1: An indurated area (black arrow) approximately measuring 5 cm × 3 cm over the right angle region of mandible. The unresolved swelling seen after 2 weeks following incision and drainage (inset)

live in lymphatics of the human host namely *W. bancrofti*, *B. malayi*, and *B. timori*. *B. malayi* is mostly confined to South-East Asia. *B. timori* is restricted to Indonesian islands. In India 99% of the cases are infected with *W. bancrofti*.^[8]

The life-cycle of the filarial worms (bancroftian and brugian filariasis) can be divided into the mosquito phase and the human phase. Man is the definitive host and mosquito the intermediate host. The microfilaria of *W. bancrofti* and *B. Malayi*, both prevalent in India, display nocturnal periodicity as a part of the biological adaptation correlating with the nocturnal biting habits of the mosquito. Adult female worms of the above two mentioned species cannot be distinguished though, adult male worms show minor differences. Species diagnosis thereby is made on the basis of morphology of the microfilaria. Microfilariae of *B. malayi* are smaller than those of *W. bancrofti*, possess secondary kinks instead of smooth curve and unlike the latter, the tip is not free of the nuclei.^[9]

The common manifestations of lymphatic filariasis include, asymptomatic microfilaremia, early filariasis (filarial fever, lymphadenitis, lymphangitis, funiculitis, epididymitis, filarial orchitis, and filarial abscess), chronic obstructive filariasis (lymph node enlargement, thickened lymphatic channels, hydrocele, chyluria, chylocele, chylous ascitis, chylous diarrhea, elephantiasis, and lymphedema) and occult filariasis (tropical pulmonary eosinophilia, filarial arthritis, diffuse mesangial proliferative glomerulonephritis, pericardial, and endomyocardial fibrosis).^[10]

Perioral manifestations of lymphatic filariasis are extremely rare. Edematous swelling of lips and interdental papilla has been reported in a young patient with microfilaremia.^[7]

This case was unusual regarding clinical presentation, as the patient presented with an unresolved abscess in the orofacial region, clinically suspected to be of bacterial etiology, proven to be filarial abscess on FNAC. In addition, presence of microfilaria in the peripheral blood without associated

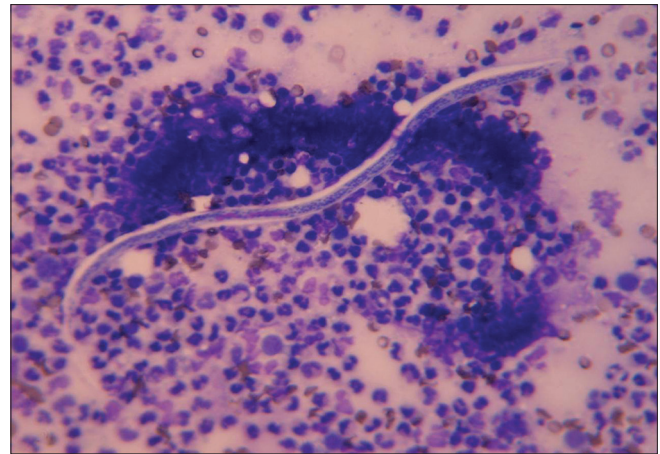


Figure 2: Photomicrograph showing a microfilaria of *Wuchereria bancrofti* with rounded anterior and tapering posterior ends (MGG stain, ×400)

eosinophilia is also a rare finding. Rare entities such as filarial abscess can be considered in the event of unresponsiveness to routine abscess management.

REFERENCES

1. Faust EC, Russell PF, Jung RC. Plasmid nematode, parasites of man. Filarioidea. In: Craig and Faust's Clinical Parasitology, 8th ed. Philadelphia: Lea and Febiger; 1970. p. 361-404.
2. Sodhani P, Murty DA, Pant CS. Microfilaria in a fine needle aspirate from a breast lump: A case report. *Cytopathology* 1993;4:59-62.
3. Chowdhary M, Langer S, Aggarwal M, Agarwal C. Microfilaria in thyroid gland nodule. *Indian J Pathol Microbiol* 2008;51:94-6.
4. Varghese R, Raghuvver CV, Pai MR, Bansal R. Microfilariae in cytologic smears: A report of six cases. *Acta Cytol* 1996;40:299-301.
5. Walter A, Krishnaswami H, Cariappa A. Microfilariae of *Wuchereria bancrofti* in cytologic smears. *Acta Cytol* 1983;27:432-6.
6. Valand AG, Pandya BS, Patil YV, Patil LG. Subcutaneous filariasis: An unusual case report. *Indian J Dermatol* 2007;52:48-9.
7. Prabhu SR, Bhatt AP, Viswanathan R. Helminthic diseases. In: Prabhu SR, Wilson DF, Daftary DK, Johnson NW, editors. *Oral Diseases in the Tropics*. Oxford: Oxford University Press; 1993. p. 138.
8. Baliga M, Ramanathan A, Uppal N. Oral filariasis – A case report. *Br J Oral Maxillofac Surg* 2010;48:143-4.
9. Park K. Epidemiology of communicable disease. In: *Textbook of Preventive and Social Medicine*, 18th ed. Jabalpur: Banarsidas Bhanot Publishers; 2005. p. 211-6.
10. Chatterjee KD. Phylum nematohelminthes, class nematoda. In: *Parasitology (Protozoology and Helminthology) in Relation to Clinical Medicine*, 12th ed. Calcutta: Chatterjee Medical Publishers; 1980. p. 190-9.

How to cite this article: Kaur R, Philip KJ, Laxman KR, Masih K. Filarial abscess in the submandibular region. *J Oral Maxillofac Pathol* 2013;17:320.

Source of Support: Nil. **Conflict of Interest:** None declared.